4 April 1960

MEMORANDUM FOR THE RECORD

SUBJECT: Emulsion No. SO-1221, Eastman Kodak.

REFERENCE: Telephone Conversation with Mr. Ed Green's Office

1. The spectral sensitivity of SO-1221 is extended into the red to nearly match that of SO-1188. The major sensitivity occurs between 580 mu through 710 mu. The speed index is 6 for 1221 whereas it is 60 for 1188 and .6 for SO-243. The characteristic size of the granular particles expressed in resolution capacity using D19 developer on a 1000 to 1 contrast ratio resolution target is 180 l/mm for 1221, 115 l/mm for 8402 or 1188. Using a contrast ratio of 1.26 to 1 (low contrast), 1221 produces 65 l/mm whereas 1188 yields only 35 l/mm. The emulsion coating thickness is .25 mils for 1188 and .20 mils for 1221.

2. Estar base on which 1221 could be coated is a thickness of 2½ mils or 4.0 mils. The emulsion plus the antihalation backing make up ½ mil. The total length of the master rolls of Estar are between 3700 ft. and 4000 ft. maximum. If it is necessary the Estar can be spliced with a Milar pressure sensitive tape. This tape has been used successfully with 8402 and 1188 emulsions.

3. The adherence of the emulsion to the base is the major unknown factor and is of prominent concern to both the project and Eastman Kodak people. It is felt that until this problem is solved, this emulsion probably will not be used with the Estar base for fear of chipping of the emulsion.

4. Using a No. 12 Wratten filter the filter factor for 1221 is 2, using a 25A Wratten filter the filter factor is 4. The present filter which is used by the operations project lies somewhere between these two, so it is assumed that the filter factor for the orange-red filter will be about 3.

/S/

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Distribution: O - R & D subject file
1 - DD/P
1 - C/TISD
1 - [redacted] 25X1
1 - D/PIC chrono